



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** D. Gaskell, J. Benesch, M. Keesee, C. Seaton, K. Cole

**DATE:** 08/17/2018

**FROM:** K. Tremblay

**Checked:** TPS

**# :** C1881

**DETAILS:**

M:\align\DATA\Step2B\BSY\3C\_12\180817A

The components on Hall C's superharp girder were surveyed August 16<sup>th</sup>, and 17<sup>th</sup>, 2018. Harp IHA3H07A encoder values are supplied as it was re-fiducialized. Encoder values are based on the wires at ideal beam center.

The table below shows the as-found and ideal coordinates in the Cebaf coordinate system, the beam following deltas from the ideal positions, plus the distance upstream from Hall C's target to the found location. A delta +dX is to the left of design beam; +dY is above beam; +dZ is downstream along beam.

	Found Coords [cebaF] Meters			Deltas Beam Following [mm]			Delta Angles [degrees]			Distance to target [mm]
	X[m]	Y[m]	Z[m]	dX	dY	dZ	dYaw	dPitch	dRoll	
IHA3H07A	-122.8241	99.9976	-385.9524	0.008	0.098	503.048	-0.0079	0.0547	-0.0209	2952.3
IHA3H07B	-123.6798	99.9975	-387.0668	0.029	0.008	62.606	0.0435	0.0269	-0.0034	1547.2
RAD3H07	-124.0402	99.9970	-387.5364	-0.073	-0.521	-0.119	0.2757	0.3017	-0.0610	955.3

	Ideal Coords [cebaF] Meters			Distance to target [mm]
	X[m]		Z[m]	
IHA3H07A	-122.5178	3.4553	-385.5534	3455.3
IHA3H07B	-123.6417	1.6098	-387.0172	1609.8

IHA3H07A Encoder Values			
	Encoder [digital]		Caliper Reading [mm]
	Reading 1	Reading 2	
Vertical 1	52493	52508	89.22
Horizontal	85764	85772	109.66
Vertical 2	113418	113417	126.7
Home	86	93	56.81

BPM Data						
BPM	Found Coordinates [meters]			BFS [millimeters]		distance to target (mm)
	X [m]	Y [m]	Z [m]	dX [mm]	dy [mm]	
IPM3H07A	-122.6721	99.9974	-385.7547	0.05	-0.06	3201.7
IPM3H07B	-123.2528	99.9975	-386.5110	0.04	-0.01	2248.1
IPM3H07C	-123.8337	99.9980	-387.2681	-0.26	0.45	1293.9